B.B.M.P

BRUHAT BENGALURU MAHANAGARA PALIKE

YELAHANKA ZONE

DIVISION: BYATARAYANAPURA

SUB DIVISION: VIDYARANYAPURA

Name of Work: Estimate for provements to Roads and Drains at Chikkachannappa Layout, Sree Archid Layout, KNV 2nd Stage Roads and Surrounding areas in Ward No. 14 (Vidyaranyapura).

Estimated Cost Rs. 55.00 Lakhs

BRUHAT BANGALORE MAHANAGARA PALIKE

YELAHANKA ZONE

NAME OF WORK:- Improvements to Roads and Drains at Chikkachannappa Layout, Sree Archid Layout, KNV 2nd Stage Roads and Surrounding areas in Ward No. 14 (Vidyaranyapura).

Estimation Cost.Rs 5500000.00

Sl No	Description of work	Unit	Mesurement				Qty.	Rate	Amount
			No.	L	B	D			
1	Removing and resetting of footpath slab (Approved arrival rate)	Sqm							
	Covering Slab Drain								
	Chikkachannappa Layout 1st Cross		1	90.00		0.75	67.50		
	Chikkachannappa Layout 2nd Cross		2	90.00		0.75	135.00		
	Sri Archid Layout		2	90.00		0.75	135.00		
			2	40.00		0.75	60.00		
			2	75.00		0.75	112.50		
	1st A Cross		2	35.00		0.75	52.50		
	2nd Main Road Balance		2	300.00		0.75	450.00		
							1012.50		
	Consider 50% of Total Qty						506.25		
	Basic rate	235.00							
	Total						**506.25**	235.00	**118969.00**
2	Earth work Excavation by manual means for drains,canals, waste weir, draft, approach channels, key trenches, foundation of bridges and such simillar works in all kinds of soils , as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter, excavated surface leveled and sides neatly dressed disposing off the excavated stuff or sorting & stacking the selected stuff for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools & other appurtenaces required to complete the work. (PWD SR 2021-22 Vol -I Pg No 5 item no 1.4.1)	Cum							
	New Culvert								
			2	6.00	2.00	1.20	28.80		
	Desilting of Drain								
	Chikkachannappa Layout 1st Cross		1	90.00	0.45	0.45	18.22		
	Chikkachannappa Layout 2nd Cross		2	90.00	0.45	0.45	36.45		
	Sri Archid Layout		2	90.00	0.45	0.45	36.45		
			2	40.00	0.45	0.45	16.20		
			2	75.00	0.45	0.45	30.37		
	1st A Cross		2	35.00	0.45	0.45	14.17		
	2nd Main Road Balance		2	300.00	0.45	0.45	121.50		
	Basic rate	186.00							
	Area weightage 10%	18.60							
	Sub Total	204.60							

Sl No	Description of work	Unit	Mesurement				Qty.	Rate	Amount
			No.	L	B	D			
	Total						**302.16**	204.60	**61822.00**
3	Providing and laying in position Plain Cement Concrete Mix 1:3:6 (M10) for levelling course for all works in foundation. Using 40 mm nominal size graded crushed coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications. (PWD SR 2021-22 Vol -I Pg 15 item no 2.1.3)	Cum							
	For Culvert								
			2	6.00	1.80	0.15	3.24		
	Issued Rate 07-07-2022 Basic rate	5554.00							
	Area weightage 10%	555.40							
	Sub Total	6109.40							
	Total						**3.24**	6109.40	**19794.00**
4	Providing Size Stone masonry with hard stone in foundation & plinth with Cement mortar 1:6 (1 cement : 6 coarse sand) **Item No. 5.4, Page No. 9, Vol - II PWD SR 2021-22**	Cum							
	New Culvert								
	1st Course								
			2x2	6.00	0.60	0.45	6.48		
	1st Course								
			2x2	6.00	0.45	0.45	4.86		
	Basic rate	5422.00							
	Area weightage 10%	542.20							
	Sub Total	5964.20							
	Total						**11.34**	5964.20	**67634.00**
5	Providing ruled pointing to cursed stone masonry with lime mortar 1:3, 20mm deep, after raking joints to depth of 20mm nicely lining, including cost all materials, labour, usage charges of machinery, curing complete as pre specification. **Item No. 21.10 Page No. 190, Vol - II PWD SR 2021-22**	Sqm							
	Pointing								
			2x2	6.00		0.90	21.60		
	Basic rate	238.00							
	Area weightage 10%	23.80							
	Sub Total	261.80							
	Total						**21.60**	261.80	**5655.00**

Sl No	Description of work	Unit	Mesurement				Qty.	Rate	Amount
			No.	L	B	D			
6	P. viding and laying in position plain cement concrete for levelling course for all works in foundation. The granite / trap / basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork shall be paid separately **Mix 1:3:6 (M10) Using 20 mm nominal size graded crushed coarse aggregate (PWD SR 2021-22 Vol -I Pg 15 item no 2.1.4))**	Cum							
	Culvert Coping								
			2	6.00	1.50	0.10	1.80		
	Ramp								
			2x2	6.00	1.00	0.15	3.60		
	Issued Rate 07-07-2022 Basic rate	5728.00							
	Area weightage 10%	572.80							
	Sub Total	6300.80							
	Total						**5.40**	6300.80	**34024.00**
7	Providing and laying in position Reinforced cement concrete for all Sub structures of building, Irrigation works, Sub structure works of bridges, Drain works & other parallel works from 0.50m to 3.50 m height. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticisers, laid in layers, well compacted using needle vibrators, providing weep holes wherever necesary, including all lead & lifts, cost of all materials of quality, confirming to the requirements of relevant IS codes, labour, Usage charges of machinery, curing and all other appurtenances required to complete the work as per technical specifications. M20 (The cost of steel reinforcement & formwork to be paid separately) **(PWD SR 2021-22 Vol -I Pg 17 item no 2.4.2))**	Cum							
	Repair of Drain								
	2nd Main Road Balance		2x2	240.00	0.15	0.30	43.20		
	Issued Rate 07-07-2022 Basic rate	5968.00							
	Add 5% for Shuttering	298.40							
		6266.40							
	Area weightage 10%	626.64							
	Sub Total	**6893.04**							
	Total						**43.20**	6893.04	**297779.00**

Sl No	Description of work	Unit	Mesurement				Qty.	Rate	Amount
			No.	L	B	D			
8	Supplying, Fitting and Placing un-coated TMT bar Reinforcement in sub-structure complete as per Drawing and Technical Specifications. MORTH Specification NO.1600&2200 **(PWD SR 2021-22 Vol -III Pg 99 item no 13.1)**								
	For Drain	Cum					43.20		
		kg	Steel assumed 60Kg/Cum of Concrete				0.06		
		tonne					**2.59**		
	Issued Rate 07-07-2022 Basic rate	92170.00							
	Area weightage 10%	9217.00							
	Sub Total	**101387.00**							
	Total						**2.59**	101387.00	**262795.00**
9	Providing and Fixing pre cast Covering Slab made out of CC 1:2:4 with 10cm thick and Finishing cutting, including form work,curing, including cost of all materials, labour, hire charges of machinery, loading, unloading, lead and lift, transportation etc, copmplete. (Data Rate)	Sqm							
	Covering Slab								
	Chikkachannappa Layout		150	0.60	0.90		81.00		
	Sri Archid Layout		135	0.60	0.90		72.90		
			120	0.60	0.90		64.80		
			150	0.60	0.90		81.00		
			62	0.60	0.90		33.48		
	Data rate	2072.00							
	Total						**333.18**	2072.00	**690349.00**
10	Providing and Fixing pre cast Covering Slab 250mm thick made out of CC 1:2:4 and jelly 20mm Down size with steel reinforcement including form work,curing, including cost of all materials, labour, hire charges of machinery, loading, unloading, lead and lift, transportation etc, complete. As per Engineer incharge	Sqm							
	For Culvert								
			2	6.00	1.50		18.00		
	Data rate	5037.00							
	Total						**18.00**	5037.00	**90666.00**

Sl No	Description of work	Unit	Mesurement				Qty.	Rate	Amount
			No.	L	B	D			
11	E. n work in surface Excavation by mechanical means for lowering & leveling the ground for all works other than foundation in all kinds of soils & upto depth not exceeding 300mm as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter including dressing of excavated surfaces, disposing off or levelling the excavated earth or sorting & stacking the selected earth for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools, usage of machinery & other appurtenances required to complete the work. In all kinds of soils upto 300 mm depth. (PWD SR 21-22 Vol I Pg no 8 Item No 1.12)	Cum							
	Road Work								
	Chikkachannappa Layout 1st Cross		1	90.00	5.00	0.20	90.00		
	Chikkachannappa Layout 2nd Cross		1	90.00	5.00	0.20	90.00		
	Sri Archid Layout		1	90.00	5.00	0.20	90.00		
			1	40.00	5.00	0.20	40.00		
			1	75.00	5.00	0.20	75.00		
	1st A Cross		1	35.00	5.00	0.20	35.00		
	2nd Main Road Balance		1	300.00	5.00	0.20	300.00		
							720.00		
	Consider 25% of Damaged Portion						180.00		
	Basic rate	65.00							
	Area weightage 10%	6.50							
	Sub Total	71.50							
	Total						**180.00**	71.50	**12870.00**
12	Providing, laying, spreading and compacting graded stone aggregate to Wet Mix Macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver/grader in sub-base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density MORTH Specification No. 406 (PWD SR 21-22 Vol III Pg no. 24 Item No. 4.27 (A))	Cum							
	Road Work								
	Chikkachannappa Layout 1st Cross		1	90.00	5.00	0.25	112.50		
	Chikkachannappa Layout 2nd Cross		1	90.00	5.00	0.25	112.50		
	Sri Archid Layout		1	90.00	5.00	0.25	112.50		
			1	40.00	5.00	0.25	50.00		
			1	75.00	5.00	0.25	93.75		
	1st A Cross		1	35.00	5.00	0.25	43.75		
	2nd Main Road Balance		1	300.00	5.00	0.25	375.00		
							900.00		
	Consider 25% of Damaged Portion						225.00		
	Basic rate	2394.00							
	Area weightage 10%	239.40							
	Sub Total	2633.40							
	Total						**225.00**	2633.40	**592515.00**

Sl No	Description of work	Unit	Mesurement				Qty.	Rate	Amount
			No.	L	B	D			
13	Providing and applying Primer Coat with SS1 grade Bitumen Emulsion on prepared surface of granular base including cleaning of road surface and spraying primer at the rate of 0.90 kg per m2 using mechanical means MORTH Specification No. 502 (PWD SR 21-22 Vol III Pg no 29 Item No 5.1.A (i))	Cum							
	Road Work								
	Chikkachannappa Layout 1st Cross		1	90.00	5.00		450.00		
	Chikkachannappa Layout 2nd Cross		1	90.00	5.00		450.00		
	Sri Archid Layout		1	90.00	5.00		450.00		
			1	40.00	5.00		200.00		
			1	75.00	5.00		375.00		
	1st A Cross		1	35.00	5.00		175.00		
	2nd Main Road Balance		1	300.00	5.00		1500.00		
							3600.00		
	Consider 25% of Damaged Portion						900.00		
	Issued Rate 07-07-2022 Basic rate	42.00							
	Area weightage 10%	4.20							
	Sub Total	46.20							
	Total						**900.00**	46.20	**41580.00**
14	Providing and laying Dense Graded Bituminous Macadam with 40/60 TPH capacity HMP using crushed aggregates of specified grading, premixed with bituminous binder VG-30, @ 4.5 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 505 complete in all respects (PWD SR 21-22 Vol III Pg no 33 Item No 5.12 (C))	Cum							
	Road Work								
	Chikkachannappa Layout 1st Cross		1	90.00	5.00	0.05	22.50		
	Chikkachannappa Layout 2nd Cross		1	90.00	5.00	0.05	22.50		
	Sri Archid Layout		1	90.00	5.00	0.05	22.50		
			1	40.00	5.00	0.05	10.00		
			1	75.00	5.00	0.05	18.75		
	1st A Cross		1	35.00	5.00	0.05	8.75		
	2nd Main Road Balance		1	300.00	5.00	0.05	75.00		
							180.00		
	Consider 25% of Damaged Portion						45.00		
	Issued Rate 07-07-2022 Basic rate	9139.00							
	Area weightage 10%	913.90							
	Sub Total	10052.90							
	Total						**45.00**	10052.90	**452381.00**
15	Providing and applying Tack Coat with RS1 Bituminous Emulsion using emulsion pressure distributor at the rate of 0.25 kg/m2 on the prepared bituminous surface cleaned with mechanical broom MORTH Specification No.	Sqm							

Sl No	Description of work	Unit	Mesurement				Qty.	Rate	Amount
			No.	L	B	D			
	ad Work								
	Chikkachannappa Layout 1st Cross		1	90.00	5.00		450.00		
	Chikkachannappa Layout 2nd Cross		1	90.00	5.00		450.00		
	Sri Archid Layout		1	90.00	5.00		450.00		
			1	40.00	5.00		200.00		
			1	75.00	5.00		375.00		
	1st A Cross		1	35.00	5.00		175.00		
	2nd Main Road Balance		1	300.00	5.00		1500.00		
	Issued Rate 07-07-2022 Basic rate	14.00							
	Area weightage 10%	1.40							
	Sub Total	15.40							
	Total						**3600.00**	15.40	**55440.00**
16	Providing and laying Bituminous Concrete with 40/60 TPH capacity hot mix plant using crushed aggregates of specified grading, premixed with bituminous binder VG-30, @ 5.4 percent of mix and filler, transporting the hot mix to work site, laying with mechanical paver finisher to the required grade,level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 507 complete in all respects (PWD SR 21-22 Vol III Pg no 36 Item No 5.16)	Cum							
	Road Work								
	Chikkachannappa Layout 1st Cross		1	90.00	5.00	0.04	18.00		
	Chikkachannappa Layout 2nd Cross		1	90.00	5.00	0.04	18.00		
	Sri Archid Layout		1	90.00	5.00	0.04	18.00		
			1	40.00	5.00	0.04	8.00		
			1	75.00	5.00	0.04	15.00		
	1st A Cross		1	35.00	5.00	0.04	7.00		
	2nd Main Road Balance		1	300.00	5.00	0.04	60.00		
	Issued Rate 07-07-2022 Basic rate	10611.00							
	Area weightage 10%	1061.10							
	Sub Total	11672.10							
	Total						**144.00**	11672.10	**1680782.00**
17	Road Marking with Hot Applied Thermoplastic Compound with Reflectorising Glass Beads on Bituminous Surface Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250 g/ m2 area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35:2015.The finished surface to be level, uniform and free from streaks and holes. MORTH Specification No. 803 (PWD SR 21-22 Vol III Pg no 57 Item No 8.15)	Sqm							
	Road Work								
	Chikkachannappa Layout 1st Cross		2	90.00	0.10		18.00		
	Chikkachannappa Layout 2nd Cross		2	90.00	0.10		18.00		
	Sri Archid Layout		2	90.00	0.10		18.00		
			2	40.00	0.10		8.00		
			2	75.00	0.10		15.00		
	1st A Cross		2	35.00	0.10		7.00		
	2nd Main Road Balance		2	300.00	0.10		60.00		

Sl No	Description of work	Unit	Mesurement				Qty.	Rate	Amount
			No.	L	B	D			
	Basic rate	478.00							
	Area weightage 10%	47.80							
	Sub Total	525.80							
	Total						**144.00**	525.80	**75715.00**
18	Loading and Unloading of Stone Boulder / Stone aggregates / Sand / Kankar / Moorum. (Tipper 14 m3) (PWD SR 2021-22 Vol-III Page No.3, Item No.1.1C)	Cum							
	Qty Vide 90% of Item No- (1+8+15)						433.94		
	Total						**433.94**	81.40	**35323.00**
	Basic rate	74.00							
	Area Weightage 10%	7.40							
	Total	81.40							
19	Cost of Haulage Excluding Loading and Unloading Taking output 18 t load and lead 10 km = 180 t.km (PWD SR 2021-22 Vol-III Page No.3, Item No.1.4B)	T.Km							
	Qty frm Item No-18			433.94	1.28		555.44		
	Total						**555.44**	115.50	**64153.00**
	15Km 7*15	105.00							
	Area Weightage 10%	10.50							
	Total	115.50							
								Grand Total	**4660246.00**
								GST Charges (18% of estimated cost)	**838844.00**
								Miscellenious and rounding	**910.00**
								Total Amount	**5500000.00**

Rupees Fifty Five Lakh(s) Only

CERTIFICATE:

1) The work spot has been inspected and found to be necessary.
2) The work spot comes under B.B.M.P Limits.
3) The provisions made in the estimate are necessary and minimum.
4) The estimate is based on C.S.R of PWD 2021-22, Issue rates and Data Rates.

Assistant Engineer
Ward No. 14, Vidyaranyapura

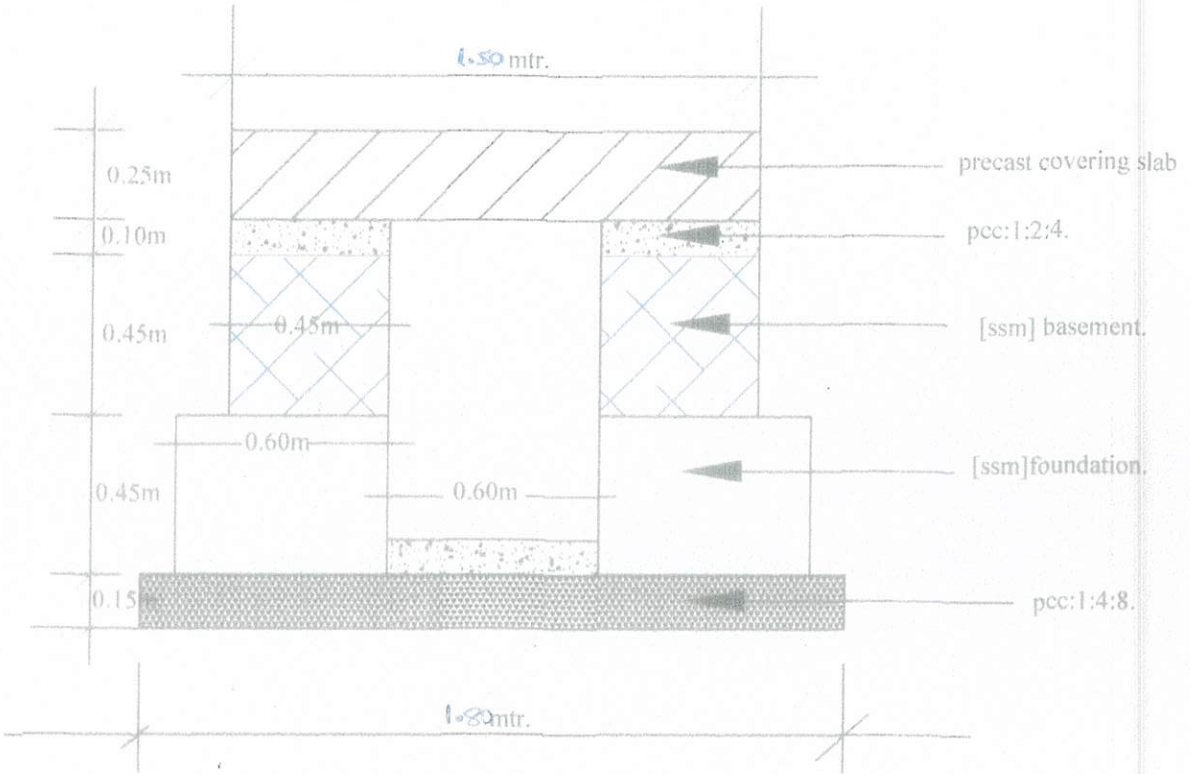
Assistant Executive Engineer
Vidyaranyapura Sub Division.

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Executive Engineer
Byatarayanapura Division

ADMINISTRATIVE APPROVAL
Accorded For Rs. Rs. 55.00 Lakh only
Head of A/c. P3726
Div. Ref No. 60 Date 21/02/23
AE EE(BTP)

Technical Sanction
Accorded For Rs. 55.00 Lakhs
Head of A/C. P3726
CER NO : 124 Dt: 16/09/22

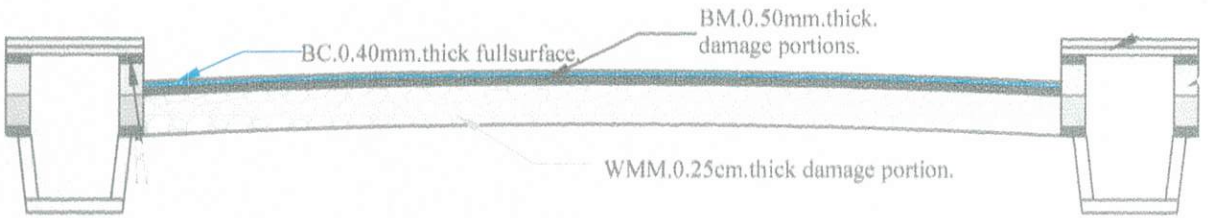


CROSS SECTION OF CULVERT

ASSISTANT ENGINEER.

ASSISTANT EXECUTIVE ENGINEER.

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

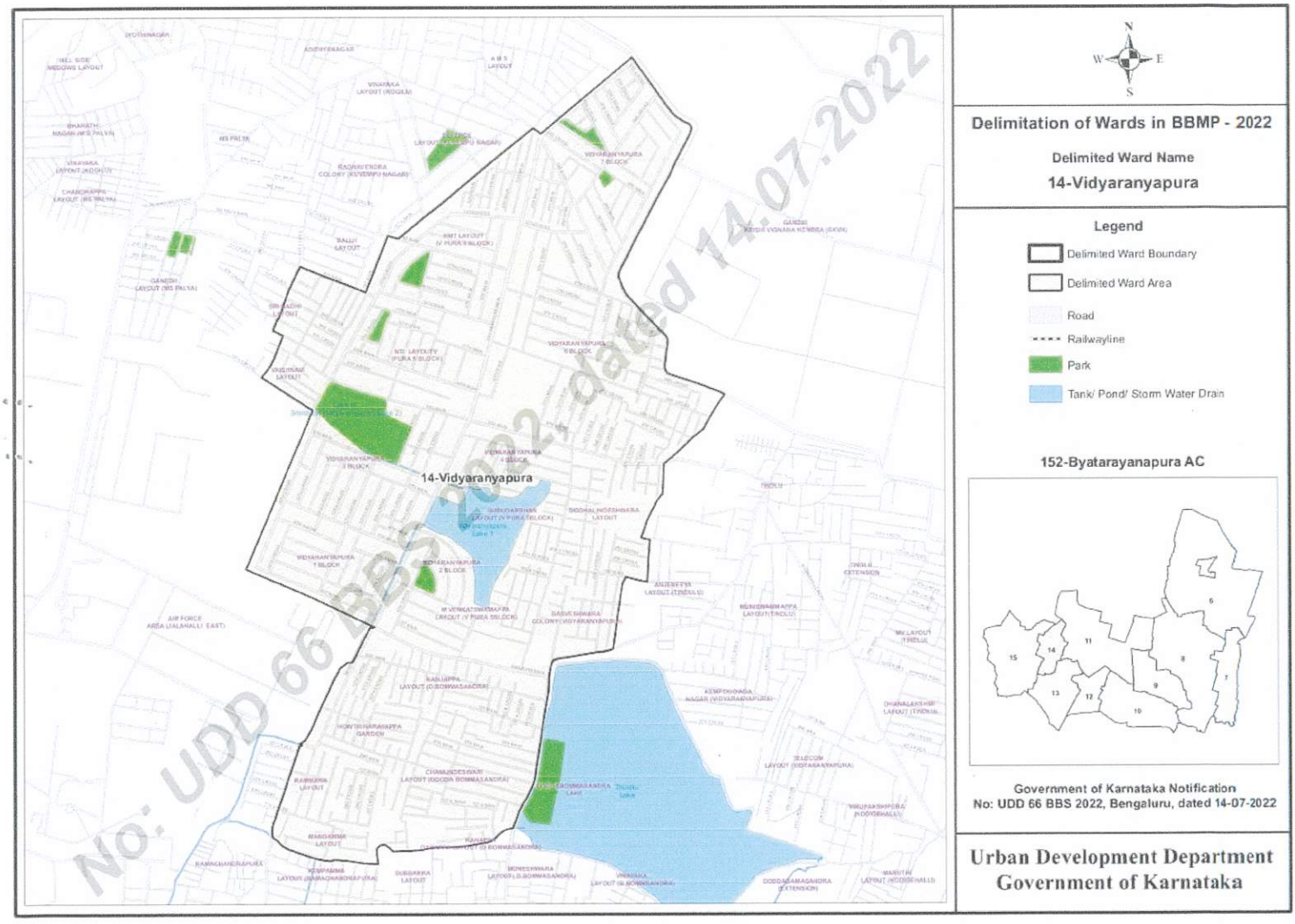


CROSS SECTION OF ASPHALT ROAD.

ASSISTANT ENGINEER.

ASSISTANT EXECUTIVE ENGINEER.

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97



AE-'14

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97